

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (previously presented) A process for producing an organic semiconductor material having rodlike low-molecular liquid crystallinity, comprising: a skeleton structure comprising L 6 π electron aromatic rings, M 10 π electron aromatic rings, and N 14 π electron aromatic rings, wherein L, M, and N are each an integer of 0 (zero) to 4 and $L + M + N = 1$ to 4; and a terminal structure attached to both ends of said skeleton structure, said terminal structure being capable of developing liquid crystallinity, said process comprising:

repeatedly purifying the organic semiconductor material to remove impurities such that the phase angle θ of impedance of said organic semiconductor material is $-80^\circ \leq \theta \leq -90^\circ$ as determined in the measurement of impedance in a frequency f range of $100 \text{ Hz} \leq f \leq 1 \text{ MHz}$ in such a state that said organic semiconductor material in an isotropic phase state is held between a pair of opposed substrates with an interelectrode spacing of 9 μm .

2. (previously presented) An organic semiconductor element comprising a functional layer comprising an organic semiconductor material produced by the process according to claim 1, wherein

the functional layer has been formed by heating said organic semiconductor material to a temperature high enough for the organic semiconductor material to exhibit at least a smectic phase and then cooling the organic semiconductor material, and at least a part of the organic semiconductor material is in a crystal phase.

3. (previously presented) An organic semiconductor element comprising a functional layer comprising an organic semiconductor material produced by the process according to claim 1, wherein

the organic semiconductor material exhibits a smectic phase.